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Airborne Engineer ARTS passes airlift, airdrop testing

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Researchers from Air Force Research Laboratory recently completed airlift and airdrop certification for Airborne Engineer All-Purpose Remote Transport System, a low-cost, survivable platform capable of tele-operations in a variety of explosive ordnance disposal, active range clearance, and debris clearing activities.

The technology, which was rapidly prototyped and developed by AFRL's Materials and Manufacturing Directorate to meet Air Combat Command requirements, was successfully dropped three times from a C-130 aircraft at an altitude of 1,500 feet during testing at Pope Air Force Base, N.C.

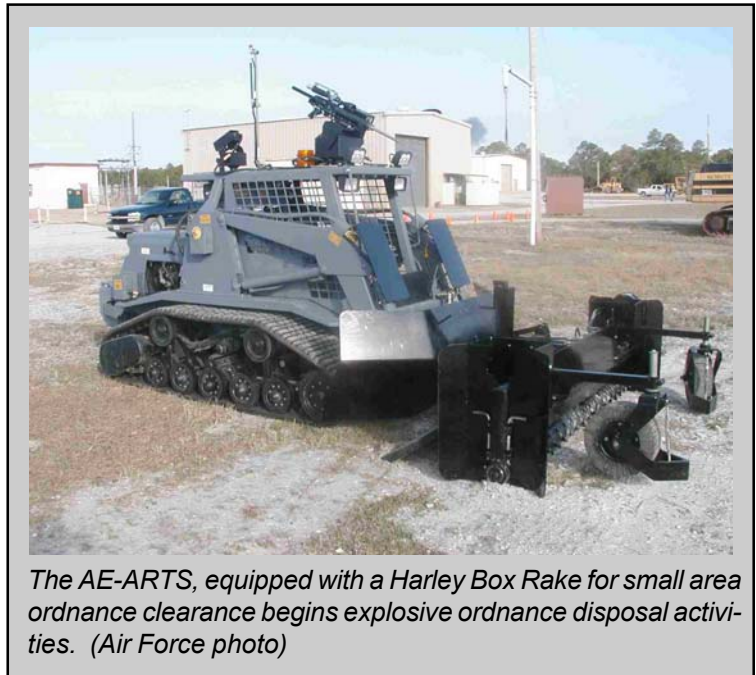
Before these evaluations, prototype AE-ARTS were developed and deployed during Operation Iraqi Freedom in response to a need for tools to protect civil engineering and explosive ordnance disposal members from hazardous force protection and active range clearance activities.

"The purpose of AE-ARTS is to provide civil engineers with a robust suite of tools with which they can accomplish critical Air Force mission goals and reduce the risk to warfighters responding to real-world situations," said Walter M. Waltz, AFRL's airbase technologies division robotics research group leader.

The first two AE-ARTS systems were prepared for deployment and airlifted from Hurlburt Field, Fla. and Charleston AFB, S.C. AFRL engineers are producing two additional units so they can provide a unit to each of ACC's four airborne engineer teams.

EOD robotics, specifically ARTS, were being used extensively in the Southwest Asia area of responsibility to augment EOD members so they could easily, safely and effectively clear unexploded ordnance and other debris from training ranges, air fields and threat areas.

When contingency operations began in support of Operation Iraqi Freedom, civil engineering EOD teams at Ali Al Salem and Al Jaber, Kuwait were faced with increased support mission operations.



The AE-ARTS, equipped with a Harley Box Rake for small area ordnance clearance begins explosive ordnance disposal activities. (Air Force photo)

To facilitate the influx of U.S. Army and Marine forces, civil engineers were required to clear UXOs, predominantly submunitions, from areas where new facilities would be built.

Applied Research Associates Inc., under the direction of AFRL, developed the systems control computer and software package. The standard ARTS operator control station includes the operator console, with command-input device (joysticks and switches) and video monitor, control station data encoder and transmitter, data and video receivers and antennas, and video-audio recorder.

Working with Applied Research Associates, directorate engineers modified the standard ARTS platform to support new requirements of the airborne engineer.

Currently, 41 ARTS units are fielded throughout the Air Force and an additional 22 units are scheduled for production. @